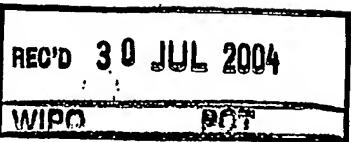


10 Rec'd PCT/IPEA  
COPY FOR IB

28 SEP 2004

PATENT COOPERATION TREATY

PCT



INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>OPP030186KR</b>	<b>FOR FURTHER ACTION</b>	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. <b>PCT/KR2003/000633</b>	International filing date (day/month/year) <b>28 MARCH 2003 (28.03.2003)</b>	Priority date (day/month/year) <b>29 MARCH 2002 (29.03.2002)</b>
International Patent Classification (IPC) or national classification and IPC <b>IPC7 C07C 303/08, C07C 303/28</b>		
Applicant <b>LG HOUSEHOLD &amp; HEALTH CARE LTD. et al</b>		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of \_\_\_\_\_ sheets.

3. This report contains indications relating to the following items:

I  Basis of the report  
II  Priority  
III  Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  
IV  Lack of unity of invention  
V  Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement  
VI  Certain documents cited  
VII  Certain defects in the international application  
VIII  Certain observations on the international application

Date of submission of the demand <b>27 OCTOBER 2003 (27.10.2003)</b>	Date of completion of this report <b>19 JULY 2004 (19.07.2004)</b>
Name and mailing address of the IPEA/KR <b>Korean Intellectual Property Office 920 Dunsan-dong, Seo-gu, Daejeon 302-701, Republic of Korea</b>	Authorized officer <b>KIM, YONG</b> Telephone No. <b>82-42-472-7140</b>
Facsimile No. <b>82-42-472-7140</b>	

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/KR2003/000633

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

 the international application as originally filed the description:pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_ the claims:pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, as amended (together with any statement) under Article 19  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_ the drawings:pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_ the sequence listing part of the description:pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language English which is the language of a translation furnished for the purposes of international search (under Rule 23.1(b)). the language of publication of the international application (under Rule 48.3(b)). the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

 contained in the international application in written form. filed together with the international application in computer readable form. furnished subsequently to this Authority in written form. furnished subsequently to this Authority in computer readable form The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished. The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.4.  The amendments have resulted in the cancellation of: the description, pages \_\_\_\_\_ the claims, Nos. \_\_\_\_\_ the drawings, sheet \_\_\_\_\_5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed." and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item I and annexed to this report.

## INTERNATIONAL PRELIMINARY EXAMINATION

International application No.

PCT/KR2003/000633

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims 1-13	YES
	Claims _____	NO
Inventive step (IS)	Claims 1-13	YES
	Claims _____	NO
Industrial applicability (IA)	Claims 1-13	YES
	Claims _____	NO

**2. Citations and explanations (Rule 70.7)**

Reference is made to the following documents:

- D1: US 3960782 (01 June 1976)  
 D2: US 4695395 (22 September 1987)  
 D3: JP 5-125014 (21 May 1993)

**1. Novelty and Inventive Step**

The present invention relates to a method for preparing monoglyceride sulfonate, a salt-containing soft soap, and a soap composition containing said monoglyceride sulfonate.

D1 to D3, which are considered to represent the most relevant state of the art, disclose shampoo or cleaning composition.

**1.1. Concerning Claims 1-4 and 10-13**

Although the prior art document D1 discloses method for preparing monoglyceride sulfonate, the method of the present invention is different from that of the document D1 in that in the process of the present invention, sodium 3-chloro-2-hydroxypropane sulfonate reacts with a fatty acid in a substitution reaction, whereas in the process of D1, sodium 2,3-dihydroxy-1-propane sulfonate reacts with the fatty acid in an esterification reaction.

Moreover, since in the process of the present invention, a sodium salt of the fatty acid as a nucleophile reacts with and sodium 3-chloro-2-hydroxypropanesulfonate as a electrophile, the salt-containing reaction mixture was produced.

Thus, claims 1 to 4 are considered to be novel and to involve an inventive step under PCT Article 33(2) and 33(3). Since the method for preparing the salt-containing soft soap of claims 10 to 13 is characterized by the inventive method of claims 1 to 4, the method of this claim is also considered to be novel and to involve an inventive step under PCT Article 33(2) and 33(3).

**1.2. Concerning Claims 5-9**

In the prior art document D1, the shampoo composition comprises 8% to 22% of the fatty acid monoglyceride sulfonate, urea, guanidine and dodecyl alcohol, in D2, the cleaning composition consist essentially of 30% to 70% alkali metal fatty acid soap, sodium isethionate, C<sub>12</sub>-C<sub>18</sub> free fatty acid and 5% to 45% sodium C<sub>8</sub>-C<sub>18</sub> acyl isethionate, in D3, the surfactant containing the succinic acid monoglyceride sulfonate is disclosed.

Whereas, in the present invention, the soft soap composition comprises 50 to 90 parts by weight of a mixture of fatty acid monoglyceride sulfonate (formula 1) which contains more than 60 wt% of lauric acid and myristic acid, 1 to 12 parts by weight of a fatty acid and a binder.

Moreover, the composition of the present invention has superior workability and physical properties, compared to those of compositions of the prior documents D1 to D3.

Consequently, the subject matter of the present claims 1-13 is considered to be novel and to involve an inventive step under PCT Article 33(2) and 33(3).

**2. Industrial Applicability**

There is no reason for denying industrial applicability of this invention. Consequently, claims 1-13 appear to meet the requirement of PCT Article 33(4).